

Muscular System Handout

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Main Functions:

The muscular system is responsible for every movement in the human body. This system is connected to the bones of the skeletal system. In our bodies there are approximately 700 muscles which takes up half of our body weight. Each muscle is a discrete organ that is made up of skeletal muscle tissue, blood vessels, tendons, and nerves. Muscle tissue is found inside of the heart, digestive organs, and blood vessels. Muscles allow necessary substances to flow throughout our bodies, such as blood.

Muscle definition:

A muscle is a special type of tissue in the human body that allows us to contract and relax. It works by creating force for different body movements. Muscles are made up of a band or bundle of fibrous tissue.

Main Muscles:

1. Cardiac Muscles (found in the heart)

Each cardiac muscle is a striated (striped) muscle. They are found only in the walls and foundation of the heart. These muscle are specifically found in the myocardium, which is the tissue of the heart, that forms a thick middle layer between the outer layer and the inner layer. Without these major muscles, blood would not be able to flow through our bodies.

2. Smooth Muscles

A smooth muscle is a firm tissue that supports blood vessels and hollow internal organs such as the stomach, intestines, and bladder. This major muscle is called a “smooth” muscle because it has no striations (microscopic lines). Smooth muscles are regulated by the nervous system, which is why they are referred to as involuntary muscles.

Muscle function varies depending on the location of a muscle. An example of a smooth muscle is one which moves food through the digestive system.

3. Skeletal Muscles

A skeletal muscle is a striated muscle tissue. These muscles move voluntarily. For example, we choose when we raise our arms. Most skeletal muscles are attached to bones by bundles of collagen fibers, that are called tendons. These major muscles move the body by contracting and pulling tendons, such as when your bicep allows arm movement.

Muscles in Unison

There are three main functions in the muscle system:

1. producing movement
2. maintaining posture
3. generating heat

Most movements result from muscle contraction. Muscles lend support to the body and assist it to maintain posture against gravity. Your muscles are constantly in motion, even when you are sleeping.

Questions:

1. What are the three different types of muscles?
2. Myocardium is another word for what muscle system?
3. Is the skeletal system a voluntary or involuntary muscle system?

Diagram:

